aluminum, titanium and magnesium parts for golf clubs and for other purposes. The preferred embodiment is applying this process to golf club head parts comprised of magnesium or titanium alloys. Other applications of this invention can be made to other metal alloys to produce golf equipment without departing from the spirit or scope of this invention.

CLAIMS

What is claimed is:

1. A precision casting process for golf club manufacture comprised of a casting process and a post-casting process,

the casting process producing metal alloy golf club components,

the post-casting process consisting of the steps of finishing the metal alloy golf club components and assembly of a golf club.

2. A precision casting process as in Claim 1, wherein the casting process is comprised of the steps of designing a mold,

selecting a metal alloy from the list of aluminum, magnesium, titanium, or steel, melting the metal alloy to a semi-solid state, adding the semi-solid metal alloy to the mold, pressing the semi-solid metal alloy into the mold with a ram to a pressure determined by the selection of metal alloy, removing the metal alloy from the mold and cooling the metal alloy.

3. A precision casting process as in Claim 1, wherein the casting process is comprised of the steps of atomization of molten metal to form metal powders, sieving the metal powders followed by gas classification to alter the particle size distribution, mixing the metal powders with thermoplastic binders to produce a homogeneous feedstock, placing the feedstock into an injection molder and molding to form a net shape green part, removing the binder from the green part via evaporative debinding, sintering the part at high temperature in a dry H_2 atmosphere or inert gas atmosphere.

4. A precision casting process as in Claim 2, wherein the metal alloy selected is titanium for face plate and sole plate components and the step of finishing the metal alloy consists of annealing said face plate and sole plates, and where the metal alloy selected for the other components is magnesium.

5. A precision casting process as in Claim 3, wherein the metal alloy selected is titanium for face plate and sole plate components and the step of finishing the metal alloy consists of heating said face plate and sole plates, and where the metal alloy selected for the other components is magnesium.